

**ABSTRACT**

An apparatus and method for measuring the temperature in an oven includes a circuit and software algorithm that reads the voltage across a standard resistive temperature device (RTD) or thermistor to determine temperature measured by the device. Using an unregulated high voltage supply to increase the gain and resolution, it overcomes the problems of small changes in resistance with respect to temperature. An additional input to measure the unregulated supply voltage is used as a reference voltage input. The apparatus includes resistor dividers for both the temperature sensor and reference voltages, a microprocessor having analog inputs, and additional components for noise suppression and open sensor protection.